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On the Typhoid Fever of Infants
By Edwin Hall, M.D.

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ARTICLE VI.

REMARKS

ON THE

Pathology of the Typhoid Fever of New-England;

AS EXHIBITED IN ITS PHYSICAL SIGNS, AND ITS ANATOMICAL
APPEARANCES.

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[Read at the Annual Meeting, May 29, 1839.]

THE character of this Society demands, for the present occasion, the discussion of some subject of professional interest. The physician can never forget his calling. Although we meet for the enjoyment of social intercourse, as well as for the transaction of important business, we cannot so far lay aside our ordinary habits of thought and feeling, as to seek entertainment from any topic, which has not a direct reference to our peculiar duties and relations to society.

Of the many topics from which our selection might thus be made, no one, perhaps, possesses a more general interest, than that of *Fever*; and no

other has so often received the attention of the Society at its annual meetings. Fever is a disease which, to a greater or less extent, every where prevails; and every physician is therefore called upon to treat it. Its pathology is intimately connected with that of many other diseases, so that a right knowledge of it would do much to explain them. The different views of it, too, which have been entertained at different times, give a perpetual variety to the discussion of it.

The researches of M.M. Petit and Serres, of Bretonneau, Chomel, Andral, and especially those of Louis, establish the fact, that the prevailing fever of Paris is constantly attended by certain specific physical appearances during life, and as constantly exhibit certain uniform changes of structure after death; while other changes, occasionally, but less constantly, observed, are found in no other disease. It remains to be ascertained whether the same facts prevail in respect to other modifications of fever, or to the fever of other places; whether every form of fever is distinguished by peculiar physical appearances, or essential anatomical characteristics; and, secondly, whether these characteristics, so far as they exist, are always the same in the same disease, recurring at different periods, and in different places.

There is much reason to doubt whether the fevers of Great Britain do exhibit the same characteristics as those of France; and if not, the question will then arise, how far the absence of these features will

prove them to be distinct diseases. How the matter stands in regard to the fevers of our own vicinity, it shall be the purpose of the present paper to show. In other words, I propose to offer some remarks on *the Pathology of the Typhoid Fever of New-England, as exhibited in its physical signs, and its anatomical appearances.*

The very able Report on the Typhoid Fever of New-England, by Dr. Jackson,* which was published in the Communications of this Society the last year, gives so complete a view of the phenomena of the disease, as they are presented in the symptoms and the effects of remedies, that it would be both superfluous and presumptuous for me to add any thing, on that part of the subject. The external signs of disease, and the investigations of pathological anatomy, have received much more attention among us, within the last few years, than ever before ; and, although the author of the Report had done much, probably more than any other man, to excite this attention, the period at which his Report closes, prevented him from applying the full benefit of it in that document.

Since the close of 1835, as well as for the two or three years preceding, the observations made at the Massachusetts General Hospital, and some cases

* A Report, founded on the cases of Typhoid Fever, or the common continued fever of New England, which occurred in the Massachusetts General Hospital, from the opening of that institution in September, 1821, to the end of 1835. Communicated to the Massachusetts Medical Society in June, 1838; by JAMES JACKSON, M. D., late attending physician in that hospital.

observed in private practice, enable us to collect a considerable number of facts in relation to this additional branch of inquiry. The results of these observations I now offer to the Society.

The whole number of cases of which I have the history in detail is 197,* being all that have occurred in the Massachusetts General Hospital since the first of October, 1833. One hundred and seventy-five of the cases terminated in recovery, and 22 patients died. Examinations were made in 18 cases; having been prevented in the other four by the interposition of friends. I have added the post mortem examinations of 15 other cases, in which the preliminary history is less complete, although sufficiently so to leave no doubt as to the character of the disease. These occurred in private practice; a few under my own observation, but the greater part were furnished me by an obliging friend.

It is difficult, in private practice, to record all the phenomena of disease, with the same minuteness and care with which it may be done in a public hospital. The rule so much insisted on by Louis, that every circumstance shall be noted, whether it have an obvious connection with the principal disease or not, whether it be common or uncommon, however valuable and important in itself, can rarely be carried into

* In this number are included only the cases whose history is tolerably complete. Wherever, from the late period of admission, or from any other cause, the history is so imperfect as to leave any doubt of the true nature of the case, it is not enumerated. If all had been counted, that are called typhoid fever (and most of them, probably, rightly called so), the number would have been considerably greater.

full effect. So many things occur, to divide the attention of the practitioner, and to prevent the full accomplishment of his purposes, that many times he can do no more than to preserve the more prominent features of a case. This is especially true in regard to examinations after death. It is, indeed, highly desirable that every part of the body should be carefully examined. But, with the imperfect facilities afforded in most cases, this often cannot be done without disfiguring the body of the patient to a degree that the feelings of our community would not tolerate, even if the physician in his zeal for pathological inquiry could bring himself to desire it.

The same difficulty occurs in a less degree in hospital practice, with all the facilities which hospitals afford. Patients cannot be examined without the consent of their friends, and this is too often either refused, or granted with such limitations as to prevent an entirely thorough examination. In the pathological history, too, where the record is made only by the attending physician, there is, necessarily, much imperfection. His mind is occupied with a consideration of the prognosis and the means of cure, as well as of the pathology and diagnosis; and many things must escape his observation, which he would not fail to notice, if his thoughts were directed exclusively to a single object.

But it does not thence follow that such observations are nothing worth, or that none but a hospital physician can pursue pathological inquiries. On the contrary, every man in the profession is able, and

ought, to add something to the general stock of medical knowledge. It is only necessary that his facts be accurately observed and stated with precision ; and although they may be incomplete in some of their relations, they will not fail to accomplish some useful purpose. Much more caution is indeed demanded in the deductions to be made from imperfect observations, however accurate their statements may be. We are especially precluded from all negative inferences. If we might be sure that every deviation from the natural state was carefully noticed in our observations, we might safely regard the absence of such notice, in a given case, as evidence that the deviation did not exist. But, very few cases have been recorded with sufficient completeness to render such an inference entirely safe ; and the adoption of it, unwarrantably, has been one of the most frequent sources of error.

In the analysis of cases for the present paper, I have admitted no fact which is not specifically stated, either positively or negatively, in the daily history, except where there was something either in the nature of the case, or in the record itself, to show that the attention was directed to it.

It is my design, under the name of the Typhoid Fever, to speak of the specific disease, so denominated by Dr. Jackson in his Report. My opportunities for observing it have been chiefly confined to Boston, and its immediate vicinity ; but it prevails, to a greater or less extent, throughout New England. Other forms of fever are occasionally seen,

but this is far the most prevalent. The term, *typhus*, which has usually been applied to it, has been employed in a more extensive sense, so as to include other modifications of fever. It became necessary, therefore, either to restrict the application of that term, or to adopt a new one. Had the reasons for preferring the latter course been even less conclusive than they are, it would now be too late to select any other with benefit. The true purposes of a name, distinctness, and general adoption, can only be accomplished by following the example which has been so ably set, and limiting the application of the terms, *typhoid* and *typhus*, to distinct forms of disease.

Some of the phenomena, which might with sufficient propriety be termed physical, have always been ranked with the symptoms of fever; such as the pulse, the state of the tongue, the temperature, and the dryness or moisture of the skin. There are others, which have only recently been recognized as making a part of, or having any connection with, the disease. It is to this class that our attention is now to be chiefly directed. The most important of them are, the tympanitic distension of the abdomen, or *meteorism*,—*enlargement* of the *spleen*,—*rose spots* on the abdomen, and *sudamina*.

It can hardly have escaped the observation of physicians, at any period of time, that the abdomen is often enlarged in fever, with a painful sense of tightness and distension. But a much greater importance has recently been attached to this enlargement, as furnishing a distinctive mark of a peculiar

form of disease. In the typhoid fever, it is found in a very large proportion of cases. Of 197 cases, I find meteorism recognized, either in direct terms, or by necessary implication, in 130. In 24, there is nothing to show whether it was present or absent; and in 43, it is expressly said to have been wanting. It is in most cases accompanied by tenderness on pressure, especially in the right iliac region and in the epigastrium, more rarely by pain. The distension often is not so great as to attract any attention till it is sought for by the physician, and then it is frequently recognized more by an increased resonance of the abdomen on percussion, than by an obvious increase of size. It is found at different periods of the disease, most frequently near the beginning; and continues from one or two days to almost its whole length. In many cases, the tenderness on pressure is of longer continuance than the meteorism, and in some, it is discovered where there is no enlargement. The state of the abdominal muscles is various in the different cases. In some, they are soft and yielding; but in many more, they are tense and hard. The recti muscles are often extremely rigid, and exhibit their fleshy bellies and tendinous bands with great distinctness.

Enlargement of the spleen, as perceptible during life, is not of much value as a pathognomonic sign. This organ is occasionally felt below the ribs, or by pressing the fingers under the cartilages, during a full inspiration; but in many cases it cannot be perceived, even where examination after death shows it

to be much enlarged. A careful percussion would aid in discovering it. But, since there is much uncertainty in regard to the enlargement itself, as a constant occurrence, and some difficulty in ascertaining it, when it does occur, we can attach very little importance to it, in diagnosis. The spleen was felt in 19 cases, not felt in 21, and not noted in the record in 157.

It is quite otherwise in regard to the *rose spots*. They are easily observed, if properly looked for; and are of very constant occurrence. Of the 197 cases that I have analyzed for this paper, rose spots are recorded in 177. In the greater part of the remaining 20, it is apparent from the record that sufficient attention was not given to them, to render it by any means certain that they did not exist. Most of the omissions are in the earlier part of the period I have specified, before the importance of this appearance, as a diagnostic mark, was fully appreciated. In a few cases, the patient was brought to the Hospital at too late a period of the disease, for them to be visible. With this exception, I have, for a long time past, seen no case, that could with any propriety be regarded as decidedly the typhoid fever, in which rose spots were not found; and, I think, it is not assuming too much, to consider them a constant attendant upon that disease.

The true rose spot is not a pimple, as it is often called, but, as its name implies, is merely a little bright red spot; so small as often to be covered by the head of a pin, and never much larger. It wholly

disappears under the pressure of the finger, or upon a slight extension of the skin, and returns immediately when the extension is removed. It is found chiefly upon the upper part of the abdomen and lower part of the chest. It is never attended by any sensation of itching or soreness; and, as the number is often small, sometimes only four or five, rarely so many as twenty or thirty, it is extremely liable to be overlooked, unless it is expressly sought for by the physician himself. The patient, if inquired of, will almost always regard it as accidental, or too trivial to notice. They are never found earlier than the sixth or seventh day of the disease, often not till the 12th or 15th. Sometimes they remain only two or three days; but more commonly are visible in greater or less numbers until convalescence is pretty well established. In a few instances, there are found interspersed with these spots, true papulæ, of the same color, but larger and with the skin slightly elevated and hardened, and not disappearing under pressure. These pimples are generally quite numerous, and extend to other parts of the body besides the front of the abdomen and chest, and are occasionally attended by considerable itching. It might be questioned, whether these should be regarded as a sort of exaggerated rose spot, or as a complication of a different eruption. But, inasmuch as the elementary form is different, and the eruption is not confined to the same part of the body, the latter seems the most correct view of it. I have not been careful to enumerate the cases in which I have found

this more extended eruption noticed ; but I think the number is not more than ten or twelve.

The little colorless, transparent vesicles, known by the name of *sudamina*, are found in the typhoid fever less constantly than rose spots, and are less exclusively confined to it. I find them noticed in 75 cases. There is, however, reason to believe, that they existed in many cases in which they were not recorded. The negative fact, that they were not found, is mentioned in 15 cases. In the remaining 107 cases, they are either not noticed at all, or not in such a manner as to afford any evidence, that they might not have been observed if sufficiently sought for. They occur later in the disease than rose spots, often not till the patient has become decidedly convalescent, when there is less inducement to examine every circumstance minutely ; and, being of little importance in themselves, and giving rise to no sensation to attract attention, they are extremely liable to be overlooked.

It is not enough to know that certain phenomena are attendant upon a particular disease ; we should know, also, whether they accompany other diseases. With this view, I have examined all the cases of acute febrile diseases, in the records of the Massachusetts General Hospital, for the same period of time as that in which the cases of fever occurred ; that is, since the first of October, 1833. Omitting those in which there was primary local disease in the abdomen, peritonitis, dysentery, &c., the whole number is 159. In these, meteorism is recorded in

nine cases,—the spleen was felt below the cartilages of the ribs in none,—rose spots were observed in none,—sudamina in eight. The cases thus enumerated were as follows: pleurisy 22 cases, pneumonia 59, gangrene of the lungs 1, acute rheumatism 54, intermittent fever 8, measles 3, scarlatina 2, inflammation of the tonsils 5, inflammation of the larynx 1, of the pericardium 2, of the brain 1, of the veins 1. It should be observed, however, in regard to this comparison, that much more attention was given to the phenomena in question, in cases of fever, than of other diseases, and they are, therefore, more liable to have been overlooked in the latter than the former. The attention of the physician is necessarily occupied with those phenomena, which, from their more frequent recurrence in a particular association are most readily presented to his observation, and which are of the greatest importance in the particular case before him, while others, of less immediate consequence, and of less probable occurrence, are for the time disregarded. Making every allowance, however, for omissions of this sort, it is apparent that there is a very great difference in the frequency of each of these appearances. Without such allowance, taking the records as our authority, the comparison is as follows:

	THE TYPHOID FEVER.		OTHER ACUTE DISEASES.	
	No. Cases.	Per Cent.	No. Cases.	Per cent.
Whole Number,..	197		159	
Meteorism,.....	130	66	9	6
Spleen felt,.....	19	9	0	0
Rose Spots,.....	177	90	0	0
Sudamina,.....	75	38	8	5

It thus appears that meteorism, while it is rarely found in other acute diseases, is quite common, but not entirely constant, in the typhoid fever. If we had connected with it tenderness of the abdomen on pressure, as another probable sign of the same local affection, the exceptions to its general prevalence would have been much fewer. Enlargement of the spleen is not discovered during life, with constancy enough to be often available as a pathognomonic sign; yet, since it is rarely perceived in other diseases prevalent among us,—when it is felt, it pretty strongly indicates the character of the disease. The appearance of rose spots in the typhoid fever is so nearly universal, that it is fair to regard the few cases, in which they are not recorded, either as subject to some accidental omission in the observations, or else, as mere exceptions to a general fact. And, as true rose spots are never found in any other disease, they become a mark of distinction of great value in diagnosis. Sudamina, on the contrary, appear to be of very little worth as a diagnostic mark. Although more often observed in typhoid fever than in other diseases, they are neither constant in it, nor limited to it. I doubt not they might have been observed, in either class of diseases more often than they appear in the tables, if they had been more diligently searched for. But in each case, their occurrence seems to depend, rather upon the state of the skin itself, than upon the character of the general disease. Wherever the skin is for a length of time kept in a state of perspiration, from whatever cause, there sudamina will generally be found.

Pathological anatomy furnishes us with additional marks of distinction between the typhoid fever and other diseases. That no more has been effected by it in times past, is to be attributed, in part, to the long prevalence of the opinion, that fever is a general disease, not dependent upon, or accompanied by, specific changes of structure; and partly to the difficulty of making examinations of the dead body with sufficient care and thoroughness, to detect all the changes which it may have undergone.

In the cases upon which these observations are founded, the examinations have been made with different degrees of completeness, according to the circumstances of each case. At the Massachusetts General Hospital, especially since the appointment of an assistant physician, who has the particular charge of this duty, every part of the body was, in most cases, fully inspected, and the results carefully recorded.

The whole number of examinations, of those who had died of typhoid fever, was 33. The head was examined in 14. There was some effusion of serum in the arachnoid or pia mater in 10 cases; an increase of bloody points in the cerebrum, with other marks of fulness of the blood-vessels in four; glands of Pacchioni large in two; and three were healthy. These appearances are not peculiar to this disease; but are found, perhaps, quite as frequently in many others.

The passages in the neck were examined in only seven cases. Ulceration of the epiglottis was ob-

served in one case, and ulceration of the larynx in two. In the remaining four cases, all the passages were healthy.

The state of the lungs was noticed in 31 cases. In 18, they were healthy, as well as the pleura; in three, there was effusion into the cavity of the pleura; in eight, there was more or less of hepatization of the lungs, sometimes in only one or two small masses, at others extensive, and in one or two cases in both lungs; in two, the lungs were engorged with blood; in one, infiltrated with serum; and in two, there was more or less of emphysema. The *heart* was examined in 28 cases. In three, there was somewhat more than the usual quantity of serum in the pericardium. The structure of the heart itself was healthy in all, except that in two or three it was rather flaccid; in about the same number, a little thickening about the mitral and semilunar valves.

In the abdomen, the morbid changes are more important. The *peritoneum* was sometimes extensively and highly inflamed. But the peculiar circumstances under which this inflammation occurred, will be better described hereafter. In other, and by far the greater number of cases, it was not particularly affected. The condition of the stomach is noticed in 32 cases. In 17, it was nearly or quite healthy; in six, there were ulcerations in the mucous membrane, in one case perforating it; in the remaining five, small and superficial; in five, the mucous membrane was softened more or less extensively, but in no case thickened; and in five, it was some-

what mamelonnated. In the *small intestines*, the mucous membrane generally was healthy, except that it was often of a deep red color in the lower part of the ileum, and sometimes was a little softened.

The principal seat of disease was in *Peyer's glands*. These glands have become so important in all discussions of the subject of fever, that I shall be excused for speaking of them in some detail.

Peyer's glands, in their natural state, are so little elevated above the surrounding parts, and differ so little in color and appearance, that they can scarcely be distinguished, except by the interruption which they cause to the valves of the intestines. By this means, they may be discovered in oval patches, of different sizes from one or two lines to an inch and more, chiefly occupying the portion of intestine opposite the mesentery. They are most numerous in the ileum near the cœcum, and gradually diminish as we ascend; but are occasionally found as high as the duodenum. On holding the intestine up to the light, they are observed as little granular bodies aggregated together, producing some little opacity in the coats of the intestine, and a slight appearance of thickening. Sometimes this thickening is apparent upon the surface of the mucous coat, without any change of color, or other indication of disease.

When diseased in typhoid fever, these patches become thickened and their color somewhat changed. Their outline is strongly marked, and the surface

studded with granular elevations, presenting an aspect not unlike that of ringworm on the skin. These appearances are modified, according to the period of the disease at which death takes place. When the patient has died early, there is a well-defined, uniform thickening of the patch, commonly of a light red color over the whole surface, sometimes surrounded by a deeper red line; the intervening surface being softened, and studded with numerous minute, opaque points. Twenty or more of these patches are often discovered. They are always the most numerous at the lower extremity of the small intestine; and the disease is always more advanced in those near the cœcum, than at a greater distance.

In a somewhat later stage of the fever, ulcerations are observed in some of the diseased patches. These are of different sizes, sometimes being quite small, at others, occupying nearly the whole patch. They are situated in the sub-mucous cellular coat of the intestine, laying bare, and sometimes destroying the muscular coat; and, in some instances, as we shall presently state more distinctly, penetrate the peritoneal coat. In these, there is the same evidence of greater progress in the patches near the cœcum. Not unfrequently, there is a particularly large and deep ulcer, situated almost, or quite, in the cœcal valve, while some elevated patches, higher up the intestine, are free from ulceration.

In some instances, life is much more prolonged. The fever abates, and the patient is for a time more

or less convalescent. He then relapses, either by a return of the original fever, or, more often, by an attack of pneumonia, or other complication, and dies after a long struggle with disease. In these cases, some of the ulcerations in Peyer's glands are found to be more or less cicatrized. The margin is of a blueish or greyish color ; and sometimes the color is diffused over the whole surface of the patch ; and, on a careful inspection, a delicate mucous membrane is found to have extended itself over the cicatrized part. This cicatrization is found to have made more progress near the termination of the ileum, than above, showing, as in the other cases, that the affection of the glands began in that part.

A fourth class of appearances is formed by the perforation of the intestine. The ulceration, which we have already described as being of various depths in different cases, sometimes penetrates the peritoneal coat ; and the contents of the intestine are poured into the peritoneal cavity. The inevitable consequence is violent inflammation, and death. This termination is not confined to cases, that in their previous history have been remarkably severe. On the contrary, it is as often seen in those of a mild character. The patient was, perhaps, walking about, with a confident expectation of speedy recovery, when he was suddenly attacked with excruciating pain in the abdomen, and died in a few hours. There are no means by which it can be known to what extent there is danger of this occurrence, in any individual case. We are obliged,

therefore, to give a cautious prognosis, in every case, in order to avoid exciting too confident expectations of a favorable result.

In one or more of these modifications, the affection of Peyer's glands is found in every case of the typhoid fever. Of 33 cases, nine presented only the first stage of the affection, thickening, softening and a red surface; in 18, while some of the diseased patches were in this stage, others, nearer the lower extremity of the intestine, had passed into ulceration, the ulcers varying in number from two or three to 20 or more; in three, some of the ulcers near the cœcum, had become more or less cicatrized; and in three, the intestine was perforated. It is worthy of remark, that the perforation was in no instance in the ulcer nearest the cœcal valve; and in one case, it was at the distance of 44 inches. The period at which these various changes take place, is various, according to the rapidity of the disease. In two cases, ulcerations were found before the 20th day; while in one, the disease had continued four months, and yet there were but eight ulcers, and no cicatrization.

The *Solitary glands* in the small intestines were found enlarged in 15 cases. In 11, they were not visible; and in seven, although the intestines were opened, they are not mentioned. Probably in most of these, they were not enlarged. The affection of these glands, in the small intestine, like that of Peyer's, is chiefly found in the inferior portion. In the large intestines, the solitary glands were enlarged

in five cases. These organs were found healthy in seven cases ; in six, their condition is not mentioned ; in two, the mucous membrane was softened ; in 17, ulcers, often quite numerous, were found in the cœcum, or first part of the colon. These ulcers were not large like many of those in Peyer's glands ; but small and distinct. In one case, in which the immediate cause of death was hemorrhage from the bowels, a firm coagulum of blood was found hanging from an ulcer in the cœcum, showing that it was the source of the hemorrhage. In this and some other cases of hemorrhage, both the large and small intestines contained a considerable quantity of blood.

The condition of the *Mesenteric* glands corresponds to the state of disease in the intestinal canal. Those glands which belong to the healthy portions of the intestines were healthy ; while those of the portions containing diseased patches, were enlarged, red, and infiltrated,—and at later stages, softened, and sometimes suppurated. The *Spleen* was large in 21 cases. In some, it was quite large, twice or three times its natural size ; and then it was commonly soft in its internal texture, breaking down by pressure into a sort of thick, dark red fluid. In seven cases, it was of natural size ; in two, it was small ; and in three, its condition was not noted.

The *Liver* was examined in 27 cases. Its structure was healthy in 14 ; it was more or less soft or friable in 10 ; hard in one ; congested in one ; and in one the serous coat of the left lobe was highly inflamed, and covered with a coating of lymph.

The following cases, abridged from the Hospital records, will serve as illustrations of the pathological changes observed at the different periods of the disease. The examinations after death were made by the late assistant physician of that institution,* a gentleman highly distinguished, as well for the extent and accuracy of his knowledge in pathological anatomy, as for the zeal and diligence by which that knowledge has been acquired, and is maintained.

CASE I.

Death the 12th day: Peyer's glands, thickened, red and softened; solitary glands enlarged; mesenteric glands enlarged and softened; spleen large.

W. S., aged 23, was admitted into the Massachusetts General Hospital, September 24, 1835. He had been ill enough to call a physician on the 15th, but had complained of lassitude and loss of appetite, for some days previously. He had been under medical treatment from that time; at first, with relief, but the disease had afterwards increased. He had had diarrhoea, which had ceased before his entrance into the Hospital. He was now delirious, so as to be unable to give any account of himself; his countenance pale, and without expression; eyes wandering, pupils dilated; tongue red at tip and edges, cracked and scaly over the surface, articulates with difficulty; teeth covered with dark brown sordes;

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mouth open; skin warm, except of feet; pulse 144, compressible, not very small; abdomen full and tense, shrinks from pressure at epigastrium and in right hypochondrium; no rose spots; makes no complaint of thirst, or of any suffering, talks much and incoherently; restless; makes frequent efforts to rise and escape, as if from danger.

Apply ice to head; sinapism to feet.

Sept. 25. Had no sleep in night; one dejection in bed; eyes very much suffused, as if bruised; tongue perfectly dry and crusty; head hot; skin dry; pulse 120, sharp, not very small; subsultus of tendons; abdomen firm, meteorism not very great; no sudamina.

R. Antimon. Tartar. gr. ii.

Aqu. bullient. z vi.

M.

R. Hydrarg. Submur. gr. viii.

Pul. Acaciæ. gr. xvi.

M. in chart div. No. viii.

ONE powder, floating in half an ounce of the solution every four hours.

Sept. 26. Countenance less sunken; eyes less suffused; tongue scaling, crusts separating; skin moist, cooler; pulse 132, better volume; no rose spots, sudamina well marked; is more manageable without restraint; has had four dejections; dejections and urine involuntary. *Medicine of yesterday every six hours.*

Sept. 27. Countenance much sunken, mouth partly open, teeth covered with sordes, eyes much suffused,

glazed and motionless; excretions involuntary; skin warm and moist; much subsultus; pulse very small and weak; sudamina very numerous and distinct. He died an hour after the visit.

EXAMINATION—TWENTY-TWO HOURS AFTER DEATH.

Exterior.—Very rigid; lividity on back of thorax; sudamina on each side of neck; abdomen moderately full.

Head.—Brain firm; slight effusion of serum in pia mater.

Thorax.—Pleura healthy; and lungs also, except some serous injection of upper left lobe. Pericardium natural; heart rather flaccid, blood in moderate quantity, liquid.

Abdomen.—Stomach not contracted, containing several ounces of rather thick, greenish fluid. Mucous membrane, towards cardiac orifice, of a deep red color, but natural as to thickness and consistence. In it, but not penetrating its substance, were five or six narrow superficial ulcerations, about one-third of an inch long. Elsewhere mucous membrane of natural color, with some mamelonnement towards pylorus. Small intestines not contracted, contained a considerable quantity of mucous and other secretions, of healthy appearance, except for about two feet in middle of ileum, where they were deeply stained as if with blood. Throughout the last nine feet, Peyer's glands were in a state of acute disease; about 26 patches counted. The disease increased progressively towards cœcum. It consisted of a very remarkable, well-defined, and uniform thicken-

ing, and such a degree of softening that the surface, to some depth, might be scraped off like a pulp; many of these were immediately surrounded by a red line, while the surface generally was of a light red color, contrasting strongly with the deep red of the surrounding mucous membrane. There were no ulcerations; but numerous opaque, whitish, very minute points were visible in the softened portions. Several of the patches were by estimate, two inches in length, and one near the cœcal valve was five or six inches; some were not more than a third or a half of an inch broad. Throughout the upper portion of the intestine the patches were quite distinct, and healthy; a few of them, however, appearing to be softened before becoming otherwise diseased. The solitary glands in the last nine feet of the intestine were very numerous; and in some cases, so much enlarged, that it was difficult to distinguish them from the small irregular patches of Peyer's glands. The mucous membrane generally throughout the intestine was well, except for its deep red color in lower portion. *Large intestines*, moderately distended with gas; solitary glands numerous and enlarged, mouths patulous, and in many apparently ulcerated; just within the cœcal valve were two ulcers, about a third of an inch in diameter, dark colored, edges red, penetrating to the muscular coat. Mucous membrane generally appeared well.

The *Mesenteric* glands corresponding to the lower portion of small intestine were enlarged, quite red, soft,—so as to break down easily under pressure,

much infiltrated with serum, but containing no pus. The glands in the mesocolon were somewhat in the same state. The rest of the mesenteric glands were healthy. The *Liver* was healthy; the gall bladder containing an average quantity of yellowish, quite liquid bile.

The *Spleen* was large: length seven inches, breadth five inches, thickness two and a half inches; of a deep red color, readily breaking down under pressure.

The *Pancreas*, *Kidneys* and *Bladder* were healthy.

CASE II.

Typhoid fever, with pulmonary apoplexy: death about 24th day. Pleura and lungs much diseased; Peyer's glands extensively ulcerated; ulcers in large intestine; spleen large; mesenteric glands enlarged, softened, and infiltrated.

October 13, 1836. L. W., aged 23, teamster: has been unwell six months; present illness of three weeks standing. This patient was brought to the Hospital in a very advanced stage of disease; his previous history not much known. He reported that he was taken with chills, and pain in the chest. He now complained of very little pain, but had evident marks of fever, complicated with pneumonia; abdomen tympanitic, pulse 124.

Oct. 14. Did not sleep; delirious all night; countenance wild; great muscular tremor of the

whole body; tongue moist, pale, tremulous, pulse 144.

Oct. 15. No sleep; countenance rather sunken; skin dry, warm; respirations 48, thoracic; muscular system much agitated, trembling of arms, picking of bed clothes; tongue dry, tremulous, with a whitish coat. He died the same evening.

EXAMINATION.

Head.—Membranes, and brain, healthy.

Thorax.—Pleura of left side covered with lymph, adherent at upper lobe, cavity containing 55 ounces of turbid serum. Left lung, upper lobe, emphysematous; in lower lobe, pulmonary apoplexy, a dark red mass occupying a considerable portion of the lobe, evidently formed by the effusion of blood into the pulmonary tissue. In the right pleura were some old adhesions. The upper lobe of the right lung was emphysematous, the lower lobe condensed, somewhat friable, no effusion of blood.

Air passages.—The thyroid and cricoid cartilages were considerably ossified. There was a deep ulcer in the larynx, just below the posterior extremity of the right vocal chord. Pharynx, epiglottis and glottis healthy; pericardium contained six ounces of serum.

Abdomen.—*Stomach healthy.*—*Small intestines* slightly distended, contained a considerable quantity of mucous secretions; mucous membrane much discolored by secretions, no where red, except round two of the ulcers; softened in lower part of the

ileum, thickness natural. *Peyer's glands*, 21 patches counted,—the first, eight feet from the pylorus. Several were examined particularly, and found to be considerably thickened, and rather softened. In a few, the greyish points were numerous but not very distinct; none were at all red, nor was there any redness about them. Seventeen ulcers were counted in the lower part of the ileum, all within less than five feet of its termination. Two of them occupied but a part of the patches in which they were situated, leaving the remaining portions but little affected. In the others, the structure of the glands was nearly destroyed, so that there was little evidence of the ulcers having been formed in them except from their shape and situation, and from the circumstance, that there was no other appearance of glands. The cellular texture remained, being slightly thickened, and opaque, and showing distinctly the outline of what had been a patch. Some of the ulcers were distinct, others were in groups, so that many small ulcers were counted as a single diseased patch. One, situated two feet from the cœcum, was an inch and three-quarters long, and an inch broad; another, three inches from the cœcum, measured two and a half inches by one and a half inches. There was an irregular ulcer at the valve. The form of the ulcers was generally regular, oval, or round; edges well defined, in a few somewhat thickened, firm and rounded. The muscular coat of the intestine formed the base of the ulcer in nearly all; the cellular coat in a few only; and in one, half an inch in diameter,

situated 18 inches from the cœcal valve, full half of the base was formed by the peritoneum alone, the muscular coat having been ulcerated away, and leaving the peritoneum extremely thin, perfectly transparent, and apparently just ready to break through. The base of two, and the mucous membrane immediately around them, was red; the mucous membrane around two others had a decidedly bluish grey color. The rest were of the natural color of the tissues in which they were situated.

The *Solitary glands* were not at all enlarged. *Mesenteric glands* enlarged, softened, friable, and infiltrated with serum, throughout, getting more so from the upper to the lower part of the intestine; the color whitish in the upper part, becoming dark red in the lower; and in several of these last were found rounded opaque tuberculous-looking masses, from the size of a turnip-seed, to that of a peppercorn; no proper suppuration.

The *Large intestines* were considerably distended, and contained a large quantity of very dark brownish, almost black substance, of a homogeneous appearance, and soft solid consistence; in the rectum, having a reddish tinge as from blood. There were a great number of ulcerations in the mucous membrane in the first four inches, too numerous to be counted, of a regular form, more of them oval than round, averaging from four to six lines long. In one or two places, two or three had united to form one large ulcer; edges of ulcers well defined; no redness about them, but around some was a bluish

grey color ; the base was formed by the muscular coat, which, as well as the mucous, was much thickened in this part of the intestine. Beyond this part, 25 or 30 ulcers were scattered, in appearance much like those described.

The *Spleen* was five inches eight lines long, four inches wide, and one inch and a quarter thick ; weight seven and a half ounces ; dark brownish red color, very soft and moist, breaking readily under pressure. *Liver* nothing remarkable ; *Pancreas*, *Kidneys* and *Bladder* healthy.

CASE III.

Typhoid fever, complicated with pleuro-pneumonia : death 41st day. Pleura, lungs, and portion of liver inflamed ; Peyer's glands partially cicatrized ; spleen large.

G. W., aged 22, shoemaker, was admitted into the Massachusetts General Hospital, Nov. 2, 1833, on the *fourth* day of fever. He had been attacked with chills, pain in the head, back and limbs, loss of appetite, &c. On the 5th day from attack, he had diarrhœa, which lasted several days ; and on the 7th, rose spots appeared on the abdomen, and continued until the 12th. On the 8th, he became delirious. By the 18th, he became decidedly convalescent. His pain was gone, diarrhœa had ceased, countenance good, his delirium was gone, and he began to regain an appetite for food. He continued nearly stationary for a few days, and then relapsed. On the 28th

day, delirium returned ; and on the 30th he had pain in the chest, which resulted in pneumonia. He died the 41st day.

EXAMINATION.

The head was not examined.

Thorax.—The left pleura and lung bore marks of very extensive and violent inflammation ; some pneumonia of right lung ; between three and four ounces of serum in the pericardium.

Abdomen.—*Stomach*, healthy. The small intestines contained a considerable quantity of mucus, colored with bile. Peyer's glands appeared to have been, at a former period, the seat of extensive ulceration. The patches at their margins were bluish, greyish, or slate-colored ; and in many the color was diffused over the surface. The margins of some were thickened irregularly. In a few, all the processes were seen, from the open ulcer to the smooth shining delicate cicatrix, and from this to a membrane closely resembling the surrounding mucous membrane, with which it seemed to be directly continuous. About these parts there was no redness. Towards the cœcal valve the patches were more healed than higher up the intestine. These appearances were confined to a space of about 20 inches from the valve. The solitary glands were somewhat affected in the lower part of the ileum. The mucous membrane, generally, well. The *Large intestines* were healthy. The extreme portion of the left lobe of the *Liver* bore marks of recent

inflammation, and adhered to the diaphragm. The gall bladder was very large, partly filled with bile, otherwise healthy. The *Spleen* was twice its usual size; considerable effusion of lymph on its surface, its internal structure a part firm, and a part much softened, and contained a small diseased mass. Some serum was found in the peritoneum, and a little pus in the pelvis. The other organs healthy.

CASE IV.

Typhoid fever, fatal 32d day. Peyer's glands ulcerated; peritoneum perforated; inflammation of peritoneum; solitary glands enlarged; mesenteric glands enlarged, suppurated; spleen large.

Sept. 14, 1835. H. G., carpenter, aged 22, was admitted into the Hospital in the 11th day of fever. He had had much pain in head and dizziness, and at times some delirium; some diarrhœa, which still continued. His countenance was dull, face flushed; tongue very dry, red at tip and edges, with a very thick coat on middle; teeth dry, and covered with sordes; skin hot and dry; pulse 84; manner slow; memory imperfect; some deafness; throat sore, and parched; great thirst; abdomen tense, tympanitic, tenderness on pressure, greatest at epigastrium and in right hypochondrium; some faint rose spots. These symptoms continued, without any very remarkable change, until October 14th. The diar-

rhœa continued throughout the disease, causing four to six dejections daily; delirium was occasional only, and not violent. The pulse varied from 72 to 96. An eruption resembling acne took the place of the rose spots. In the last two or three days of this period, there were some rather decisive indications of approaching convalescence. His countenance was brighter, he took more notice of things about him, deafness less, and had some disposition for food. At 2, P. M., Oct. 4th, the 31st day of the disease, he had a severe rigor which lasted three quarters of an hour, followed by heat and profuse sweating. He appeared to be in great pain; talked incoherently; pulse 120. He died at five o'clock the following morning.

EXAMINATION—FOUR HOURS AFTER DEATH.

Externally.—Numerous sudamina on abdomen, which was moderately full.

Head.—Some effusion of serum in cavity of arachnoid, and some in pia mater; a large quantity at base of brain, and more than usual in lateral ventricles. Longitudinal sinus and veins of pia mater moderately full; glands of Pacchioni very large; brain firm, bloody points rather numerous; two or three small serous cysts in plexus choroides.

Thorax.—Left *Pleura* healthy, right *Pleura* contained about five ounces serum; a portion of recent lymph hanging from lower lobe of lung. *Lungs*, lower lobes engorged, friable, and showing through-

out the cut surfaces, dark red, almost ecchymosed spots; otherwise healthy. *Pericardium* and *Heart* healthy. *Epiglottis*, *Larynx* and *Trachea* healthy.

Peritoneum, almost every where marks of acute inflammation; 38 ounces limpid serum in peritoneal cavity. The small intestines were glued together by interposed layers of recent lymph, which was most abundant towards the right side, where also was effused much of the contents of the intestines. A large quantity of lymph on convex surface of the liver, and corresponding surface of diaphragm; none on the stomach, except towards the small curvature, and generally none on the small intestines opposite the mesentery, although there was considerable redness of the surface of the mesentery. *Stomach*, distended with flatus, contained four ounces of bright yellow liquid; mucous membrane healthy. *Small intestines* contained much light yellow, thin fluid, at upper part, and a soft solid matter of same color. The matter found in the peritoneal cavity was like this. *Peyer's glands*, in upper portion of intestine, quite healthy; disease below not increasing so remarkably towards the termination of the ileum as is often the case. Seventeen patches in a state of ulceration were counted. The ulcers averaged two or three lines in diameter, were well defined, edges red and considerably raised from thickening of the subjacent cellular coat. They generally exposed the muscular fibres. One ulcer penetrated through the peritoneum. It was situated seven and a half feet from the cœcum; was more than half an inch

long, and from one to two lines broad, and ran transversely to the intestine. The perforation was circular, about one and a half lines in diameter; edges very sharp, and peritoneal surface, for some distance around, covered with lymph. Some of the patches were quite healthy, except for the ulceration; but they were generally more or less thickened irregularly, red and softened. Many other smaller ulcerations were found, which were not in Peyer's glands, being generally more superficial, much less thickened; the edges of some very dark, almost black. A few, however, were more recent, considerably thickened, and of a bright red color. One of these, being the first ulcer that was met with, was situated 12 feet from the pylorus. The *Solitary glands* were visible throughout the last eight feet of the intestine, numerous, especially towards the cœcum, where they were transparent, and about the size of a turnip-seed. The *Mesenteric glands*, opposite the lower end of the ileum, were greatly diseased. Several were as large as a filbert, soft, of a mixed whitish and deep red color externally; and, being cut, were found to be extensively suppurated. Those corresponding to the upper part of the canal, gradually became healthy. *Large intestines*, much contracted, containing very little healthy secretion; five or six small dark-colored ulcers in the cœcum, most of them not thickened, quite superficial, but two or three penetrating to the muscular coat. Otherwise, mucous membrane well. *Liver*, tolerably natural; *Pancreas*, healthy. *Spleen*, six inches

long, four and a half inches broad, soft and of a deep red color. *Kidneys*, dark-colored, congested, and rather friable. *Bladder*, not contracted, many small red spots on its inner surface towards the neck.

We come now to the inquiry, to what extent the same morbid changes are produced by other acute diseases? I have already remarked, that the appearances in the head are not characteristic of typhoid fever. The appearances not only vary in the different cases, or are entirely wanting, but precisely the same are found in other diseases. This last remark I am not able to verify by a very full collection of cases. Of the 159 cases of acute diseases, other than typhoid fever, occurring at the Massachusetts General Hospital, that I have analyzed for the purpose of comparison, 18 were fatal; and in 15, examinations were allowed. But in the earlier portion of the time, only those parts of the body were examined which were of more immediate interest in the particular disease; or, if examined, the other parts received only a general notice that they were healthy. In eight cases, the state of the head is noticed. In four, there was an effusion of serum, three in the arachnoid, one in the pia mater also, and one in the ventricles. Pacchioni's glands were very large in one, and numerous bloody points in the medullary substance, in one.

The state of the lungs and heart cannot be brought into this comparison, because in 14 of the 15 cases, those organs or their investing membranes, were the chief seat of local disease.

The stomach was declared to be healthy, or nearly so, in seven cases; the mucous membrane was mamelonnated in three, and in five, its condition was not particularly described.

The state of *Peyer's glands* is particularly referred to in 11 cases, in all of which they were healthy; and in two other cases there is a general remark, that the organs in the abdomen were healthy; in two, no reference is made to them. To these I may add six cases of similar diseases, that I have observed elsewhere, in all of which they were healthy. I know of no case of any acute disease, besides typhoid fever, in the adult patient, in which these glands have been found diseased. In phthisis, they are often the seat of ulceration, and of tubercular deposits; but the appearances do not very nearly resemble the thickening and consequent ulceration peculiar to typhoid fever.

There is, however, another class of cases, in which these glands are affected in a manner precisely similar to the affection in that disease. This occurs in young children, in the diseases of the first dentition. My observations are not sufficiently numerous to determine with what degree of constancy this affection occurs in teething children. But they are sufficient to show, that it is not exclusively confined to typhoid fever, even in acute diseases.

The first case in which I noticed this affection was in a child 14 months old, who died suddenly in convulsions, May 28th, 1836. He had suffered from

the irritation of teething for several months previous, but without diarrhœa; and had undergone an occasional attack of convulsions, which had been mild, and had ceased to produce alarm. But now a severe fit, without any preceding indication of danger, suddenly destroyed life. On opening the abdomen, red patches were visible through the coats of the intestines. The intestines were opened throughout, and nearly thirty patches were counted, quite distinct, extending from the cœcum almost to the duodenum. Many of them were obviously diseased; and, as in typhoid fever, the disease increased towards the lower part of the intestine. They were thickened, and red; and the surface of some of them was covered with a soft whitish substance resembling lymph. The corresponding mesenteric glands were enlarged and red. The solitary glands were distinctly visible. A portion of the ileum and of the mesentery was removed and shown to several gentlemen, who recognised the appearances, as precisely resembling those observed in fever.

In the second case, a child, 10 months old, died of cholera infantum, after a week's sickness. Twenty-five patches of diseased glands were counted in the small intestine. They were thickened and red, but not ulcerated. The mesenteric glands were swollen and red; the solitary glands not visible. In a third case, a child of 18 months, died after suffering three or four weeks with diarrhœa, which terminated in cholera infantum. Thirty patches of Peyer's glands

were counted, elevated and red ; and six were ulcerated ; these last all within nine inches of the cœcum. No solitary glands were visible ; but there were numerous little excavations, penetrating through the mucous membrane, scattered over the whole internal surface of the ileum for the distance of 18 or 20 inches from the cœcum. It seemed as if they might be ulcerations of the solitary glands ; their edges were not thickened, and they contained nothing. The mesenteric glands large and red. A fourth case, was presented in a child 18 months old, who died, during the period of dentition, of dropsy in the head. Peyer's glands in the lower part of the ileum were thickened and red, and several were ulcerated. In a fifth case, similar appearances were observed, but without ulceration, in a child that died of inflammation of the lungs, after having been previously enfeebled by the irritation of teething. The sixth was somewhat different. The child had suffered severely from cholera infantum, and during convalescence, was attacked with whooping-cough, which was fatal to him. I was permitted to make only a hasty examination, under circumstances that neither allowed a careful inspection of the organs, nor opportunity to remove them. Peyer's glands exhibited obvious marks of having been diseased and cicatrized.

These are all the observations I have had opportunity to make on this point ; and I do not know that the attention of any other person has been directed to it. I must be permitted to repeat, that

I do not regard them as sufficient to establish any general pathological fact, except, as I have already stated, that of an exception to the general exemption of Peyer's glands from any morbid affection in acute diseases other than typhoid fever. It might have been better to have abstained from publishing them, until a more extended series of cases should be collected to verify and illustrate them. But their direct bearing upon the present subject seemed to call for some notice of them here.

In four of the 15 cases of acute disease, before referred to, the solitary glands in the small intestines are noticed as enlarged; and in one, in the cœcum, they were ulcerated. In the remaining 11, they are not mentioned, probably because no disease was observed in them. The spleen is mentioned in 10 cases: in three, it was large; in four, small; and in three, of natural size, or healthy. In one case, where it was large, and in two, in which it was small, its texture was soft. The *Liver* was examined in all the 15 cases. It was healthy in seven; and somewhat softened, or friable, in eight. In three, it was large; in three, small; and in nine, its size was not noticed as unnatural. The other organs furnish no points of comparison to demand our attention.

It will readily be perceived, that the disease of which we have spoken, bears a very strong resemblance to the "Typhoid Affection" of Paris, so fully described by M. Louis. This has already been shown, by the History of our Typhoid Fever, as reported by Dr. Jackson. It will be very fully

confirmed by a comparison of the physical and anatomical appearances. The "Researches" of M. Louis, and Dr. Jackson's Report, are both in the hands of the members of the Society; and they are so familiar with them, that any detailed comparison of the disease of the two countries, on this occasion, would be quite superfluous.

The principal difference between them is seen in the greater frequency of diarrhœa in the fever of Paris than in our own. Of 128 cases, under the observation of Louis, diarrhœa occurred in 104,* or, 81 per cent. In the Massachusetts General Hospital, from 1824 to 1835, this symptom appeared in 167 out of 297 cases, 56 per cent. In the cases since Oct. 1, 1833, the proportion is still less, being 49 per cent.; or 96 cases out of 197.

The same difference in regard to the prevalence of diarrhœa is found in other acute diseases. Louis reports 81 cases of diarrhœa in 273 acute diseases other than typhoid fever, which is 30 per cent., nearly. In 159 cases of similar diseases, in the Massachusetts General Hospital, the diarrhœa occurred in 18, being only 11 per cent.† From these facts, it would appear that the more frequent occurrence

* Louis's Researches, Vol. II, pp. 14, 19, 22. No more than 104 cases of diarrhœa are enumerated; although it would seem from other passages that the proportion is actually much greater than this, and that some are omitted in this enumeration.

† I have omitted M. Louis's enumeration of "pulmonary catarrh," and "urticaria," &c., in this comparison, because I have no account of similar diseases to be compared with them. Those included in the comparison are of the same general character, and of a similar degree of severity.

of diarrhœa in the fever of Paris, is not to be attributed to any peculiarity in the character of the disease itself, as compared with the typhoid fever of New England, but to some more general cause, affecting in an equal proportion other acute diseases.

The fevers on the continent of Europe appear to be of the same character, generally, or at least extensively, as in Paris. Dr. Lombard says, that he always saw the same morbid appearances in examinations at Geneva;* Dr. Staberoh witnessed the same in "about 50 cases" in Vienna;† Dr. Grossheim, in 20 cases, in the Imperial Grenadier Regiment;‡ and Dr. Stannius, in 20 out of 23 cases, in Berlin. In one of Dr. Stannius's three remaining cases there was softening of the lining membrane of the intestine; in a second, the ulcers had cicatrized; and the third, was a case of petechial typhus.§

The comparison of our fever with the fevers of Great Britain, is of greater practical importance than with those of France; and, at the same time, is much more difficult. A very large proportion of our medical literature is received from England; and the greater part of our instruction in pathology and therapeutics is derived from English authors. If diseases of a different character are known by a

* Dublin Journal of Medical Science, Vol. X, p. 18.

† Idem., Vol. XIII, p. 429.

‡ Edinburgh Medical and Surgical Journal, Vol. XLVIII, p. 177.

§ Ibid., p. 169.

similar name ; and the knowledge applicable to one, is applied indiscriminately to another, it is obvious that we are liable to be greatly misled, both in our pathology and treatment. There is much reason to apprehend, that this has already been done to a considerable extent. A judicious practice, in some of our diseases, has required an independence of the text-books and authorities put into the hands of our pupils, and a departure from their precepts, hardly to be acquired or ventured upon, by the young practitioner, but at the expense of much painful experience.

The comparison is difficult, because the authorities upon which it should rest are few and unsatisfactory. I know of no English physician who has investigated the fevers of his country with any thing like the patient diligence of the French pathologists. We could hardly expect, indeed, to meet again, in the same age, the laborious minuteness and care of Louis. But we might hope, from some of the numerous and well-appointed hospitals, with which England is supplied, a more full and satisfactory account of the phenomena of their diseases than we have been able to obtain.

Several of the ablest of the late British medical writers seem not to have suspected any difference of character, between the fevers of Great Britain and those that prevail on the continent of Europe. Dr. Tweedie* alludes to the fact, that the affection

* Cyclopædia of Practical Medicine, Vol. II, Article, *Fever*, pp. 161, 181.

of Peyer's glands is more common in the fevers of France than in those of England, but without any intimation that there is any other ground of distinction between them. Dr. Graves,* although he has published much on the fevers of Ireland, scarcely alludes to any observations made on the continent. Dr. Stokes,† and Dr. Copland,‡ make use of the observations of Andral and Louis, indiscriminately with those of Tweedie and other English authorities, in their pathological remarks on Fever. Dr. Marshall Hall§ speaks, indeed, of the distinction between typhus and typhoid fever ; but he mistakes for the only typhus, the severer forms of jail, hospital, and ship fevers, and confounds the ordinary typhus of England with the fever of France, as if it were of course the same disease.

The remark has often been made, however, that the typhus of Great Britain does not afford the same anatomical appearances, at least not with the same constancy, as that of France and other parts of the continent ; and, at length, the distrust of the accuracy of the observations, which at first prevailed, although still followed by many a hint that the French pathologists attach vastly too much importance to them, has in some degree, given place to a disposition to inquire into the character of their

* Clinical Lectures; and various papers in the *Dublin Journal of Medical Science*.

† Lectures on the Theory and Practice of Medicine.

‡ Medical Dictionary, Article, *Fever*.

§ Lectures in the *Lancet* for July, 1838.

own disease. The obvious method of doing this effectually would be, to investigate the phenomena as they are exhibited in their hospitals. Opportunities for observations upon fever are exceedingly abundant and highly favorable, in every part of Great Britain; not only because the hospitals are numerous; but because, in consequence of the prevalence of an opinion that fever is a contagious disease, the number of patients gathered into the hospitals is very great, amounting in some to several thousands annually.*

Yet the number of careful observations, of which I have been able to obtain any notice, is exceedingly small. I find hospital reports in abundance, giving accounts of the admission and discharge of many thousands of patients, with a considerable amount of statistical information in regard to the prevalence and mortality of fever, and on various other subjects, often of no small value; but I meet with comparatively few notices of the phenomena of the disease as they were presented during its progress, and still

* The number of cases admitted into the Fever Hospital, Cork street, Dublin, in one year, from April 1, 1834, to March 31, 1835, was 4,524;¹ and the number in twenty-five years, was 77,866.² The number admitted into the Belfast Fever Hospital, in seventeen years, from May, 1818, to May, 1835, was 9,849.³ In St. John's Fever and Locke Hospital, Limerick, the fever cases in twenty years, from 1816 to 1836, were 30,942; and in the latter year alone, there were 3,227.⁴

¹ Dr. EUSTACE's Report, *Lancet* for Sept., 1835, Vol. XXXI, p. 724.

² *Dublin Journal of Medical Science*, Vol. X, p. 103.

³ *Statistics of Fever*, by Wm. MATEER, M. D., *Dublin Journal*, Vol. X, p. 33.

⁴ Dr. W. J. GEARY's Report, *Dublin Journal*, Vol. XI, p. 384.

fewer descriptions of the anatomical appearances discovered by examination after death.

In 1836, Dr. H. C. Lombard, of Geneva, visited England, Scotland and Ireland, for the purpose of investigating this question. He had been more than six years engaged in close attention to this subject, and having witnessed the examination of many who had died of typhoid fever, in Paris and Geneva, he was quite familiar with the affection of Peyer's glands, as it is found in the fever of those cities; although he describes it incorrectly in saying, that "in fatal cases, it always ends in ulceration of the mucous membrane." His investigation was not very thorough. He saw three cases examined after death (one in Glasgow, and two in Dublin), in which, from the similarity of the symptoms, he had confidently predicted the same changes of structure that he had witnessed on the continent. There was no affection of Peyer's glands in either. Being disappointed in the result in these three cases,—and it does not appear that he saw any other examinations in Great Britain,—he immediately abandons his previous opinions, founded upon the investigations of more than six years, and comes to the conclusion, not that the typhus of Great Britain is different from that of Paris and Geneva, but "that typhus fever is more a general disease, affecting the whole constitution, than a malady depending on any local inflammation or any local change of structure."*

* Dublin Journal of Medical Science, Vol. X, p. 23.

He is not wholly unmindful of the difference in some of the symptoms; but he considers the differences unimportant, and, in answer to the question, "whether the two diseases are different, or the same," he expresses strongly the conviction, that they are not "specifically distinct."

In a subsequent paper, Dr. Lombard takes a different view of this question; although it does not appear that his second opinion is founded upon any new observation of the disease. He now avows the opinion, that two distinct diseases were prevalent at the same time; one the typhoid fever of the continent, the other a *contagious typhus*, which originated in Ireland, and from there spread over Great Britain.* The suggestion, of the twofold character of the epidemic, might have been of some value, if it had been accompanied by any satisfactory explanation of the difference between them, or of the phenomena which they severally exhibit. But, as a mere speculation, having no other basis than the single difference of appearances in regard to the affection of Peyer's glands, and with no other object than to escape from a difficulty, it is entitled to very little consideration.

In 1837, Dr. Staberoh, of Berlin, visited Ireland and Scotland, for a similar purpose. He, too, was familiar with the typhoid fever of the continent; and had formed his opinions in the same excellent school of observation at Paris. His opportunities

* Dublin Journal of Medical Science, Vol. X, p. 103.

for witnessing the disease in Great Britain were much more extensive than those of Dr. Lombard. I know not what account of his observations he may have published, in his own country, after his return. His paper written at Glasgow, after a residence of six months in that city and in Dublin, read before the College of Physicians in Ireland, contains very few facts of interest to the general question. Its leading object appears to be to gratify his Irish friends, by proving that the epidemic had not originated peculiarly in their country, as had been asserted by Dr. Lombard, but was as truly a Scottish, as an Irish, fever. In doing this, he incidentally describes some of its phenomena. He evidently regards the fever of Great Britain as the same disease as the fever of the Parisian hospitals, although, in a very large proportion of cases, it wanted the characteristic affection of Peyer's glands.

I have been thus particular in speaking of the statements and views of these gentlemen, because, having been trained to accurate investigation, and having come to the examination, with very strong anticipations of a different result from that which they ultimately adopted, they were peculiarly well situated to observe carefully, and to judge correctly; and their opinions might seem to claim an importance from the circumstances under which they were formed, to which they were not entitled, from any intrinsic value. But we are not called upon to receive the opinion of any one, however qualified he may be to form it correctly, any farther than it is

supported by the observations on which it rests. We proceed, therefore, to an examination for ourselves of the characteristics of the fever of Great Britain, as they are exhibited in the best descriptions that we can obtain.

The earliest notice that I can find, by any English physician, of affection of the glands of the ileum in fever, is by Dr. Bright, in his *Report of Medical Cases*.* He gives a brief history of ten fatal cases, with dissections, and figured illustrations of the morbid anatomy, of the several stages of disease, from simple enlargement of the glands, to ulceration, and cicatrization, and perforation of the intestine. Eleven other cases are added as examples of a proper treatment. It is manifest, that both the local affection, and the general disease, are identical in character with the typhoid fever of which we have spoken. These cases occurred in Guy's Hospital, ten in 1826, six in 1825, three in 1827, and of two the date is not given. Dr. Bright does not speak of the local affection, as universal in fever; but he expresses the opinion, that "the intestinal canal is almost always irritated, and that this irritation keeps up all the bad symptoms."† Dr. Bright's observations appear to have attracted very little attention. Some of them were made, as we have seen, as early as 1825, and they were published in 1827. Yet I have found

* *Reports of Medical Cases*, selected with a view of illustrating the symptoms and cure of diseases, by a reference to morbid anatomy. By RICHARD BRIGHT, M. D., F. R. S., &c., Lecturer on the Practice of Medicine, and one of the physicians to Guy's Hospital, Vol. I, p. 178.

† *Ibid.*

only two or three very slight references to them, in any of the authorities I have consulted on this subject; and so late as in 1830, it was not the practice, even in Guy's Hospital, to open the intestines in the examinations of patients who had died of fever.

In 1830, Dr. Tweedie published his "Clinical Illustrations of Fever;" containing the history of 73 fatal cases of disease that had occurred at the London Fever Hospital, in 1828 and 1829. In 54 of these cases, examinations were made. The result, as stated by himself is, that in 16 cases only, out of the 54, were ulcerations found in the mucous membrane of the small intestines, answering to the affection of Peyer's glands.* But this statement should not be received as authority, although it has often been quoted as such, without some scrutiny.

The London Fever Hospital, under the medical care of Dr. Southwood Smith, and Dr. Tweedie, receives all cases of febrile disease, including inflammations and the exanthemata, with the exception of small pox and measles. Dr. Tweedie's definition of simple fever is, "increased heat, accelerated pulse, thirst, general functional disorder."† A large proportion of the patients are the parish poor; and, in consequence of a regulation that each parish shall pay something for the support of its patients, many of them are received at a very late stage of disease, and under circumstances that render it impossible,

* Cyclopædia of Practical Medicine, article, *Fever*. By Dr. TWEEDIE, Vol. II, p. 181.

† Clinical Illustrations of Fever, p. 282, Boston edition.

without great care and trouble, to obtain any thing like a satisfactory history of its earlier progress. Doubtless many of these difficulties might be obviated, by a sufficient degree of attention; but they furnish reason for us to look beyond the general statement of the cases, that we may see with what degree of accuracy they have been observed and recorded.

On making such an examination, we find that the histories of the greater part of the cases are so incomplete, as to render it quite impossible to form any opinion of the character of the disease, independently of the examination after death; and in some, the uncertainty is not removed by the examination. Several patients were brought to the hospital in a dying state, and no account is given of their previous history. In regard to a part of these cases, no reason appears why they should be called *fever*, unless it be the accident that they were brought to a fever hospital, and died there.

I have made a somewhat careful analysis of the 54 cases; and, so far as the materials given afford ground for classification, the following appears to me to be a fair result. No more than 19 of them are cases of fever; eight are clearly cases of pneumonia, with extensive hepatization of one, and sometimes both lungs,—two of them with pleurisy superadded; one is pleurisy with little or no pneumonia; four are phthisis, with extensive tubercular disease in both lungs,—two in a softened state, one with numerous cavities, and one with ulceration of

the intestines,—in the other two, the surrounding portions of lung consolidated by inflammation; one is pulmonary apoplexy; one, gangrene of the lungs; four, inflammation of the brain, one of these should rather, perhaps, be regarded as hypertrophy of the brain; two, erysipelas; one probably scarlatina, though the history begins too late to make it certain; five, peritonitis, not caused by perforation of the intestine, of which there are two examples in the 19 fever cases; one, internal strangulation of the intestine from intussusception, producing sphacelus; one, inflammation of the cœcum; and six, are too imperfectly recorded to warrant any conjecture in regard to them.

Three or four of the cases that I have classed as fever, are somewhat doubtful, but I prefer to enumerate in this class, all that can with the least propriety be called fever, in any specific sense of the term. Two of these were complicated by inflammation of the lungs. In 13 out of the 19 cases, there were ulcerations in the lower part of the ileum. In five others, there is described inflammation of the mucous membrane of the same part, sometimes in patches. These appearances were doubtless caused by thickening of Peyer's glands, which are never mentioned in the examinations. In the remaining case, the abdominal viscera are said to be healthy, "excepting the mesenteric glands, which were enlarged, and partially affected with suppurations of a scrofulous character." Now it is well known that enlargement of the mesenteric

glands, especially with suppuration, is rarely, if ever found, without some disease in the part of intestine to which they correspond; and it is more reasonable to suppose, that an affection of that organ was overlooked in the general survey of the "abdominal viscera," than that so unusual an exception to a general fact existed in this case.

Nearly at the same time with Dr. Tweedie's publication, a treatise on Fever was also issued by his colleague, at the London Fever Hospital, Dr. Southwood Smith. In this are given the narratives of 104 fatal cases of disease, with the results of examination after death. Twenty-seven of the cases are the same, in each work. In 43 of the remaining 77 cases, there is notice of ulceration or other affection in the mucous membrane of the ileum. I have not thought it worth while to make an analysis of these 77 cases, like that to which we have subjected Dr. Tweedie's. They were selected from the same Hospital Records, and are, of course, subject to the same imperfections; and they have, besides, the additional disadvantage of having been selected in the illustration and support of a particular theory of fever. I think we are fully warranted in saying, both of Dr. Smith's and Dr. Tweedie's cases, that, instead of establishing any difference of character between the true fever of London, of the period in which they occurred, and the typhoid fever of Paris and of New England, they go as far towards proving its identity with them, as cases so imperfectly observed ever can go towards proving any thing.

It is to be regretted, that Dr. Tweedie has not extended his observations, by an examination of additional cases. In the article, *Fever*, in the Cyclopædia of Practical Medicine, published in 1833, we find him referring to the same 54 cases of his Clinical Illustrations, without any allusion to later observations, although, in the mean time, the publications of Louis, and other French pathologists, had drawn the attention of the whole medical world to this most interesting subject. With an experience of seventeen or eighteen years as physician to a well-appointed hospital, that supports 500 or 600 fever patients, or what is called fever, annually, and with his attention sufficiently drawn to the subject to have twice published elaborate essays upon it, he might reasonably have been expected to produce something more decisive of its character than the reports we have now examined. And yet I believe Dr. Tweedie is fairly entitled to the distinction of having done more towards the elucidation of this subject, by the publication of facts in regard to it, than any other English physician.

In the last eight or nine years, fever has prevailed in Great Britain, much more than for several years before. This new epidemic, as it may with propriety be regarded, began in Ireland and Scotland, chiefly in the larger cities and manufacturing towns, and soon after made its appearance in London. There can be no doubt, that in a large proportion of cases, it is destitute of the characteristic affection of Peyer's glands, which, as we have seen, is universal

in the typhoid fevers of Paris and New England ; and common, if not universal, in the earlier fever of London. Whether it differs, also, in other respects, so as to constitute it essentially a different disease, or whether the difference exists only in regard to that affection, bespeaking rather an exception to the otherwise universal prevalence of it in a specific disease, is a question of great pathological interest.

That this affection is generally not found in the present epidemic, is confidently stated in general terms in many accounts of the disease, and in reviews and various other papers, although the detailed evidence of its absence is not so precise and accurate as we could wish. Dr. Perry, of Glasgow, states, as "the result of careful observation in upwards of 4000 cases" (1145 in the first seven months of 1831, and 3203, between November 1, 1833, and the end of 1835), "and 300 necroscopic inspections," that enlargement of the solitary glands, and ulceration of Peyer's glands, were found in about one-sixth of those who died, of what he, in common with most of the British medical writers, denominates contagious typhus.* But he gives us no particulars, either of his 4000 cases, or his 300 inspections, to enable us to judge how far he might be influenced in his observations by his theoretical views, or with what degree of care and thoroughness his examinations were made. Dr. Craigie, of

* Observations on Continued Fever, as it occurs in the City of Glasgow Hospitals. By ROBERT PERRY, M. D., Physician to the Glasgow Fever Hospital. Edinburgh Medical and Surgical Journal, Vol. XLV, p. 64, Jan., 1836.

Edinburgh, has published three Reports on the fever, as it came under his observation in a part of the Royal Infirmary of that city. In the first, embracing the period from December 15, 1832 to August 1, 1833, he reports 104 cases of fever, and 16 examinations after death; in the second, for the year from October 25, 1834 to October 24, 1835, 174 cases, 24 deaths, and 12 examinations; and in the third, for the period from June 28, 1836 to February 12, 1837, 169 cases, 23 deaths, and 13 examinations. Some of the cases are given in detail, others are only stated in general terms. The three reports contain notices of 41 examinations. Peyer's glands were found to be affected in seven cases; in three of these there were ulcerations; in three, the intestines were not opened, and in 31, no morbid appearance was discovered in the ileum.*

In the winter of 1837-38, Dr. Charles West made some observations upon the fever of London, in St. Bartholomew's Hospital.† He had studied the typhoid fever of the continent, in Germany, and at Paris, and he carried out his observations in London, with a minuteness and care not often found in recent English pathological

* In this last number, several cases are included, in which nothing is expressly said of the condition of the intestines; but it appears from other circumstances stated, that they were examined. *Edinburgh Medical and Surgical Journal*, Vol. XLI, p. 257. Vol. XLVI, p. 1, and Vol. XLVII, p. 285.

† Some account of the Typhus Exanthematicus, as observed in St. Bartholomew's Hospital, London, in 1837-38. By CHARLES WEST, M. D., Graduate in Medicine and Surgery of the University of Berlin. *Edinburgh Medical and Surgical Journal*, No. 136, for July, 1838. Vol. L, p. 118.

investigations. He followed 60 cases through their whole history. Of these, 14 were fatal; and examinations were made in 10. The mucous membrane of the small intestines was more than usually vascular in five; the vascularity, in one, being extreme, but generally not intense; it was in patches corresponding to the situation of Peyer's glands, or near the cœcal valve. In one case, these glands were enlarged, and the solitary glands in two; but he never saw them ulcerated.

I am permitted also to refer to several observations of a young gentleman of this city,* who, after spending nearly three years in attending the hospitals in Paris, visited the London Fever Hospital, the last year, for the purpose of investigating the character of this disease. He observed ten fatal cases carefully through, and examined the appearances after death. Peyer's glands were affected in but one case.

In a paper by Dr. Stokes, of Dublin, "On the State of the Heart, and the use of Wine in Typhus Fever,"† I find notices of examinations of four fatal cases; in one of which there was enlargement, with some ulcerations of Peyer's glands. If to all these we add the three cases witnessed by Dr. Lombard, in which there was no affection of the ileum, we have an aggregate of 65 cases of examination of

* G. C. SHATTUCK, Jr., M. D.

† Researches on the State of the Heart, and the use of Wine in Typhus Fever. By WILLIAM STOKES, M. D., M. R. I. A. Dublin Journal of Medical Science, for March, 1839, republished in Dunglison's American Medical Library, Vol. III, No. 2. 1 Monograph A, p. 1.

the small intestines, in ten of which, Peyer's glands were found diseased, and in 55, they were not affected; corresponding very nearly to the proportion stated by Dr. Perry, as the result of his observations at Glasgow.*

The state of the spleen is noticed in but a few of the reports that I have examined. Dr. West found it enlarged and softened in six cases, and healthy in four. Dr. Craigie notices its enlargement five times in his third report, out of thirteen cases, and in the second, in three out of twelve. But it does not appear whether it was healthy in the remaining cases, or whether its condition was overlooked.

The morbid changes in the other organs are not uniform nor constant enough in either form of fever, to enable us to institute a satisfactory comparison between them. In general, affections of the head and those of the stomach are both more frequent and more severe, in the later fever of Great Britain than in that of France and of this country. But there is no one affection that is not occasionally wanting. Indeed, Dr. Stokes gives one case in which all were absent in the same case. "No organic lesion of any kind could be discovered in any part of the body." Dr. Stokes found the heart softened in three of his four cases, in two very remarkably. But the object of his paper had a particular reference to the state of that organ, and

* Dr. Staberoh saw the glands of the ileum affected five times, in Glasgow; but he omits to mention the number of cases in which they were found healthy.

it is not improbable, that the cases selected to illustrate it, exhibited that affection in more than the usual proportion. Softening of the heart is not mentioned in other reports, as a frequent occurrence.

The symptoms of fever in its several forms have so many things that are common to all, or that differ only in their degree of intensity, that it is not easy, by any description of them, to distinguish its various modifications with clearness. It is impossible to read the reports of the typhus of Great Britain without perceiving that it is a much more grave disease than the typhoid fever either of Paris or New England. Its course is more violent and rapid; the prostration, not only of the strength, but of the faculties, is more sudden and complete; the cerebral symptoms are more severe, or severe in a larger proportion of cases; the complications are more numerous and more severe, and it would seem, though the evidence is not, perhaps, very conclusive, that the mortality is greater. There are also some other marked differences of character; the eruption, especially, is widely different; and the derangements of the abdominal organs have more respect in general to the condition of the stomach, than to that of the intestines. Diarrhœa is much less frequent. Some of these symptoms we must notice more particularly.

Duration.—Dr. Mateer reports,* that the average term of residence in the Belfast Fever Hospital, of

* Dublin Journal of Medical Science, Vol. X, p. 32.

11,209 patients in 17 years previous to May, 1835, was 22 days; and by another table he shows that the average duration of fever before admission was about seven days, making the whole duration 29 days; and he estimates that one half of this term was occupied by the disease while on its increase, and the other half on its decline. It is worthy of remark, that the term of residence was three or four days shorter in the last three of the 17 years than in several of the earlier years, and somewhat less than the average, or than in any of the others. The average duration of 170 cases in the Edinburgh Infirmary, in 1834 and 1835, counting the days of illness previous to admission, and the residence in the Hospital, was 31 days,* and of 165 cases in the same institution, in 1836 and 1837, 25 days.† The average duration, ascertained in the same manner, of 186 cases of typhoid fever in the Massachusetts General Hospital, from October 1, 1833 to May 1, 1839, was 39 days. Of the five fatal cases reported by Dr. Stokes, the mean time of death was the 17th day of the disease; that of Dr. West's 14 cases, the 18th; that of 20 cases in Dr. Craigie's Report for 1833 and 1834, the 16th, and of 29 of those in 1836 and 1837, the 14th day. The duration of the fatal cases reported in this paper was ascertained in 21, and of these, the mean fatal day was the 33d. It thus appears that the fever of

* DR. CRAIGIE'S Report. *Edinburgh Medical and Surgical Journal*, Vol. XLVI, p. 1.

† *Ibid.*, Vol. XLVII, p. 285.

Great Britain is much more rapid than our own, both in the earlier termination of the fatal cases, and in the more rapid convalescence of the greater number who recover.

Cerebral affections.—The severity of the affection of the head is manifested by pain, stupor and confusion of mind, and delirium. All these appear as frequent symptoms of the typhus of Great Britain, but the number of each is not particularly mentioned in most of the reports. Dr. Craigie, in his second report, enumerates 99 out of 174 cases, as complicated with affection of the head, but without specifying the nature of the affection. Dr. West states that there was headache in all the 60 cases observed by him, where it was not masked by delirium or stupor; and there was delirium in 33, including all the fatal cases. Dr. Stokes reports delirium in 11 of his 19 cases. Of the 197 cases in the Massachusetts General Hospital, since October 1, 1833, delirium is recorded in 41, and headache in 164; 33 of these are included in each enumeration.

Mortality.—I have not data enough on this point to authorize a very confident conclusion in regard to it. Dr. Craigie, in his second report, records 24 deaths out of 174 cases, or one to every $7\frac{1}{4}$; and in his third report, the proportion is nearly the same. Dr. West reports 14 deaths out of 60 cases; one to $4\frac{1}{2}$. Dr. Jackson reports in the Massachusetts General Hospital, 42 deaths in 343 cases, making one to eight. Since October 1, 1833, the proportion has been still less, 22 in 197 cases; one to nine.

Diarrhœa.—This symptom is not reported, so as to be available for the purpose of comparison, except by Dr. Stokes and Dr. West. The former reports six cases of diarrhœa in 19, and the latter 10 in 60. In general the diarrhœa was slight and continued but two or three days. It occurred in only three of Dr. West's fatal cases. Thirteen of the 60 were affected by constipation. In the typhoid fever of Paris, diarrhœa occurs in almost every case; and, as we have already seen, in our own fever, in 96 out of 197 cases. In the earlier English fever, 17 of Dr. Bright's 21 cases had diarrhœa; three of the others were admitted so short a time before death that the state of the bowels was not ascertained. Ten of Dr. Tweedie's 19 cases, which I recognise as fever, had diarrhœa,—three others probably,—and most of the remaining six either were free from it, or it had ceased before admission.

Eruption.—There is scarcely any resemblance between the little bright red rose spot of the typhoid fever, scattered thinly and sparingly over the front of the abdomen, and the abundant eruption of the typhus of England. This eruption, indeed, is not always uniform. Three varieties are described. One is the true rose spot; it seems not to be often if at all found alone, but to be occasionally met with, interspersed with the other forms. The second is of a papular form, somewhat confluent, and very generally spoken of, as resembling the eruption of measles. This is the prevailing form, the others apparently being little more than accidental. The third form

is petechia. The term *petechial* is often applied to the eruption *generally*, though somewhat inaccurately. Dr. Stokes, for example, speaks of petechial or maculated fever, indiscriminately. True petechiæ, however, are not unfrequently met with, generally, if not always, in connection with the papular form.

The eruption is abundant over the body, quite as much upon the back as in front, some reports say more, and presents itself as a prominent feature of the disease; insomuch that some writers call it typhus exanthematicus; others use the term eruptive fever, and one at least regards the eruption as of itself a sufficient diagnostic mark to distinguish this from other fevers. It generally appears from the 6th to the 8th day, often as early as the 4th, and never later than the 10th. Whereas rose spots in the typhoid fever never begin earlier than the 6th day, rarely before the 7th or 8th, quite often as late as the 12th or 15th, and sometimes later than the 30th. Its manner of going off is also different. It fades in two or three days, but dies away slowly, leaving a stain behind, which sometimes is visible a fortnight or more.* The appearance of the eruption brings with it no appreciable change of the other symptoms; and its abundance or scarcity has no obvious relation to the severity of the individual cases. Even the appearance of petechiæ is not particularly unfavorable.

I am not able to state very fully in what propor-

* Dr. WEST on Typhus Exanthematicus, p. 140.

tion of cases the eruption is observed. Dr. Cowan found at Glasgow, in one year, from November, 1835, to October, 1836, that of 2257 patients, 1669 had eruption, and 580 were without it.* Dr. Staberoh reports 1103 cases in the same city, in five months, in 1836, of which 844 had eruption, and 259 were without. Dr. Craigie mentions it numerically only in his third report, in which it is said that 79 out of 169 had eruptions. Of Dr. West's 60 cases, 42 had the "measles-like" eruption, and in five there were petechiæ also. All of Dr. Stokes's 19 cases were "petechial," or "maculated;" but, as I have before remarked, these cases were selected to illustrate the effect of a particular remedy, and not as examples of the usual state of the malady.

But while it thus appears that the two diseases differ much from each other, in many of their general features, it is no less true that in individual cases, it is sometimes impossible to distinguish them, by the phenomena during life. Both Dr. Lombard and Dr. Staberoh acknowledge the surprise they felt at not finding in the intestines the appearances of typhoid fever, such as they had seen on the continent, in cases in which the previous symptoms had led them to expect them confidently. The gentleman, to whom I have before referred, has more recently made the comparison under favorable circumstances; and although he could commonly predict in what

* Review of COWAN'S Vital Statistics of Glasgow. Edinburgh Medical and Surgical Journal, Vol. LI, p. 537.

cases these appearances would or would not be found, it was not always so. Of the cases reported, very few are given in sufficient detail to furnish data for any opinion on this question. It would seem, that, excepting perhaps some more prominent symptoms of abdominal derangement, differing more in degree than in character, the cases in which Peyer's glands have been found enlarged or ulcerated, were not essentially unlike others in which no such affection was discovered. This point, however, has not received much general attention. It is by no means certain that further and more careful observation may not discover marks of distinction which shall be appreciable in all cases during life. If it should be otherwise, it is no more than what happens occasionally in regard to other diseases, of a character obviously distinct in their nature and origin.

It is not impossible, perhaps not improbable, that further investigations may discover a common origin for all the forms of fever, and distinguish the several modifications that occur, as varieties of the same general disease. But in the actual state of knowledge, which is the only sound basis for our opinions, for the time being, it seems more reasonable to regard as distinct diseases those which are characterized by a marked difference of phenomena, and of pathological appearances. In this point of view, I think we are warranted, in considering the recent typhus fever of Great Britain as a different disease from the typhoid fever of France and New England, and of England itself.

Our information is not sufficiently full and complete, to authorize a very confident opinion on the subject, still less to explain all the difficulties that attend it. There is little room to doubt that the earlier fever of England, as seen by Dr. Bright and Dr. Tweedie, was the true typhoid; and it is by no means improbable that some cases of the same disease still occur, in the midst of the other, while many more, perhaps, are in a greater or less degree modified by a complication of the two.

We have the example in this country, of the prevalence of two fevers of essentially different characters, in the same places, and at the same periods of time. The prevailing, but not the sole, fever of New England, is the typhoid. In the more southern and western parts of the country, other forms of fever prevail; while the typhoid is only occasionally witnessed. In the Middle States, the several classes of fever are more equally met with, either indiscriminately, or in different epidemics. This point has been very fully and satisfactorily established in regard to the fevers of Philadelphia, by Dr. Gerhard.* He has often observed in that city the true typhoid fever, with its characteristic affection of the intestinal glands. But in the remitting and bilious fevers from the southern coast, this affection is entirely wanting. It was also absent in an epidemic which prevailed extensively among the poor of Philadelphia, in the

* On the Typhus Fever which occurred at Philadelphia in the spring and summer of 1836. By W. W. GERHARD, M. D. *American Journal of the Medical Sciences*, Vol. XIX, p. 289, and Vol. XX, p. 289.

spring and summer of 1836, of which Dr. Gerhard has given a full and able account. His observations in that epidemic extended to nearly 250 cases, and to about 50 examinations after death. In one case only were Peyer's glands at all affected; and in that the symptoms had been of a doubtful character.

This disease Dr. Gerhard proposes to call *typhus* fever, in contradistinction from the typhoid fever, which has formerly been included in the same designation. It differs from that, not only in wanting the characteristic affection of Peyer's glands, but also in the violence and nature of its symptoms, and in more frequent and severe affections of the stomach and liver, and perhaps the spleen, as well as in being liable to graver and more frequent complications, with diseases of the head, and of the heart and lungs. The character of the eruption is different, resembling, so far as it is possible to compare it by description alone, that of the typhus of Great Britain. Indeed, the disease is, in all its most important features, the same with that, and as such it is rightly regarded by Dr. Gerhard.* It was less frequently complicated with typhoid fever. Dr. Gerhard, as we have seen, found but one case of this complication in 50; while about one sixth of the recorded cases in Great Britain

* Since the publication of his papers in the American Journal of the Medical Sciences, Dr. Gerhard has had opportunity to establish, still more fully, the identity of the typhus of Philadelphia with that of Ireland, by the observation of a considerable number of cases, in emigrants recently arrived from Ireland. More than 30 cases of this sort came under his care in the summer of 1837; and they presented all the distinguishing features of the disease before described by him.

exhibited it. There may perhaps be a reason for this difference in the greater tendency to typhoid fever in the latter country in ordinary seasons. But we have not facts enough on this subject to make it expedient to pursue the inquiry here.

I have already intimated that fever occasionally occurs in New England, of quite a different character from the typhoid. Such fevers have recently been seen among us only in sporadic cases, except perhaps in a few localities; and most frequently in persons who have just returned from a more southern climate. In the hottest season of the year, a few cases are sometimes produced by indigenous causes. They are easily distinguished from the typhoid fever during life; and the examinations after death show as great a difference in the anatomical appearances, as exists between the English and French fevers. Five or six such cases came under my own observation during the last summer. They were all mild, and as the patients recovered, there was no opportunity for anatomical investigation. But the nature and course of the symptoms marked it as a different disease from our ordinary fever, with a clearness not to be mistaken. Whether this fever is to be regarded as the same as the typhus of Philadelphia and of Great Britain, or whether it is still another form of fever, allied to, or identical with, the bilious fever of more southern climates, and distinct from typhus, are questions upon which I am not disposed at present to enter.

A single case, much more nearly resembling the

English typhus, occurred at the Massachusetts General Hospital, in December, 1836, in a young man who had recently come from England, and was attacked with fever about the time of his arrival in America. He had been ill four weeks when admitted, and was then delirious. His delirium was more violent than is common in typhoid fever; and continued till his death. He had no diarrhœa, not much apparent tenderness of the abdomen, no meteorism; no sudamina, nor rose spots; but a red eruption over the abdomen of a different character. He died the 13th day from his admission. There was some effusion of serum in the arachnoid; the lungs and the heart were healthy; the mucous membrane of the stomach was softened, apparently cadaveric, that of the small intestines stained at the lower part, and a little softened; Peyer's glands, not diseased, except that one or two patches were a very little softened; large intestines healthy; liver and spleen of natural size and healthy.

We may, I think, now regard it as established, that the true typhoid fever is marked by rose spots on the abdomen, and the affection of Peyer's glands in the intestines. As diagnostic signs, therefore, these appearances are of the highest value; since they enable us, generally during life, and always after death, to ascertain with entire confidence, the character of the disease in which they are observed.

The question next arises, What degree of importance shall be attached to them in a pathological point of view? What influence have these affections,

or either of them, in producing or modifying the general symptoms of fever. In England, the affection of Peyer's glands is almost universally regarded merely as an accidental complication of fever, of no more consequence to its general character than inflammation of the lungs or the stomach. In France, on the contrary, especially by many of the pupils of Louis, it is considered as the chief cause of all the phenomena, without which they cannot be produced. I do not perceive that M. Louis himself has any where distinctly expressed this opinion. But the manner in which he uniformly speaks of the affection as the essential characteristic of typhoid fever, certainly countenances it. The truth doubtless, as in many other cases, lies between.

That the affection is something more than an accidental occurrence, is apparent from the mere fact of its universal prevalence. This prevalence, indeed, has been denied by the English physicians; but, as I think we have sufficiently shown, a more full examination of their own diseases would prove that they are in error; and that the affection is found, whenever it is properly looked for, in true typhoid fever.

On the other hand, it is not easy to believe that an inflammation in the ileum, of so small an extent as is often observed, should be capable of giving rise to all the variety of symptoms that are frequently seen in that fever. At a later stage, when the disease of the intestine has proceeded to ulceration, it is not difficult to account for its influence. In

regard to perforation, there can be no doubt of its agency; and independently of that, there is much ground for the opinion suggested by Dr. Bright, that many of the leading symptoms are kept up by the irritation of the intestine, either directly, or by its sympathetic effects. But ulceration rarely if ever is found before the twelfth day, while many of the most active symptoms of disease, headache, dizziness, general pain, &c., are often present at the very beginning. In a large proportion of cases, especially those in which there is no delirium, the general symptoms are on the decline, at the period when it should seem, from anatomical researches, that the affection of the glands is constantly advancing.

These glands are also affected in other diseases: and, although those diseases have so little affinity with typhoid fever, that the fact of a kindred affection causes no embarrassment in diagnosis, we might reasonably expect to see some analogous effects in them, if its influence in this were so important as has been supposed. It is true that in phthisis the appearance of the ulcerations is somewhat different, but the organ affected is the same, and the immediate consequence, diarrhœa, is often the same, and yet the symptoms that accompany it in the general system are most unlike. In the affection of teething children, the case is still stronger, for both are acute diseases, and the course and appearances of the local derangement are perfectly similar.

We are not therefore to regard the affection of Peyer's glands as the cause of the other symptoms

of typhoid fever, but as an effect with them of some common cause, the true character of which remains still to be discovered. It will facilitate the investigation of that cause, to keep in mind a right view of what has been already done. If we prematurely imagine the whole question to be settled, we of course take away the inducements to further inquiry. It is much to have advanced so far, as to have obtained some fixed points, resting upon indisputable facts, that are not liable to be removed by any successive change of opinion. The influence will be highly important in all future pathological investigations, in respect to other diseases as well as to fever.

The question remains, Of what avail is the knowledge of the disease of Peyer's glands, in the treatment of typhoid fever? It certainly does not bring us information of any sure method of cure. The local inflammation and ulceration are no more under our control, than are the other symptoms. This knowledge, however, does serve to explain many phenomena of the disease, and many effects of remedies which could not be so well understood before. It serves to guard us especially against inappropriate, irritating medicines, such as were formerly in use, in the expectation of arresting the progress of fever. So long ago as 1827, Dr. Bright said he had "almost always found that the small doses of antimonial remedies usually administered as a part of the diaphoretic plan in fever, do harm, where any decided tendency to irritation of the

bowels exists.”* Up to a very recent period, if it be not so in some places even now, it was a common practice to give not only antimonials, but irritating cathartics, not occasionally to evacuate the intestines, but daily, and several times a day, to “break up,” or arrest the progress of the disease, or to cure diarrhœa,

* Report of Medical Cases, Vol. I, p. 185. The recommendation of antimonials in Dr. Jackson’s Report on Typhoid Fever, is limited with so much care, as scarcely to bring them within the implied prohibition of Dr. Bright’s remarks. He does, however, recommend their use, and suggests the inquiry, whether the omission of them, with that of other active treatment, might not have been the cause of the greater mortality and increased duration of the disease in the two or three last years of the period, to which the report applies.¹ The suggestion was certainly a natural one, founded upon the facts as they stood at the time. But a continuance of the report to the end of 1838 would materially change the aspect of the facts. It must be observed, that the apparent comparative want of success from the less active practice was not fully known at the time. Consequently, the treatment has continued up to the present time, to be quite as mild certainly, as at any former period, perhaps even more so; not from any particular concert between the several physicians, but in consequence of the opinion entertained by each, that a very active treatment, beyond a proper attention to the state of the stomach and bowels, and to local inflammation, when that exists, is not well adapted to cure the disease. The number of deaths in 343 cases, prior to the end of 1835, was 43,—nearly one in eight; or, taking the numbers in which the character of the disease was more strictly ascertained, which is the fairest for the present comparison, it was as follows, viz.:

Year	Cases.	Deaths.	One death in	Year.	Cases.	Deaths.	One death in
1822	1	0		1829	25	1	25
1823	5	0		1830	14	4	3½
1824	15	3	5	1831	29	2	14½
1825	18	2	9	1832	23	4	5¾
1826	26	3	8½	1833	37	6	6⅓
1827	19	3	6⅓	1834	34	6	5⅔
1828	22	2	11	1835	35	6	5⅔

In 14 years, 303 cases and 42 deaths, one in 7¼, very nearly; and in the last four years, one in six.

¹ Report on the Typhoid Fever. Massachusetts Medical Communications, Vol. VI, p. 111.

by removing the supposed cause of irritation. Surely a knowledge that this cause was inflammation in the intestines, would do something to improve such treatment. It teaches, too, and enforces, the necessity of a mild and unstimulating diet, during a long convalescence, as well as during the more active period of the disease.

But perhaps the most important practical lesson derived from this knowledge, consists in the caution which it imposes to abstain from attempting too much by active treatment. Inflammation, it is well known, after it has become established, must go through a certain process, before it can terminate in health. If typhoid fever, therefore, be inseparably connected, as it assuredly is, with a process of this sort, so that the patient cannot be restored until that process is completed, it is apparent, that violent, persevering efforts to arrest the disease, after it has

The three succeeding years exhibit the following result, viz.:

Year.	Cases.	Deaths.	One in
1836	59	6	10 nearly.
1837	29	0	0
1838	20	1	20
Total,	108	7	15

In the two years, from November, 1836, to November, 1838, there was a succession of 55 cases of the typhoid fever, without a single death; and the case in which death then occurred (and there has been no death since) was in so advanced a stage at the time of admission, that the result, strictly speaking, could have no bearing upon the question of treatment. It is manifest, therefore, that the greater mortality in the years 1832—1835, must have been produced by some other cause than the difference of practice. The true cause of difference is, doubtless, the difference in severity of the same disease in different periods.

fairly begun its course, cannot be successful. They may do much harm, by increasing the irritation and inflammation; but it is scarcely possible that they can do good. We may allay the general irritability of the system, we may watch against the attack of unfavorable symptoms, we may soothe the irritated state of the intestinal canal, and sometimes, perhaps, moderate the severity of its local inflammation; and thus contribute greatly, both to the comfort and the restoration of our patient. In the beginning of disease, before the process of inflammation is fully established, we may, perhaps, do more, and by early removing the causes of irritation, prevent its formation, and cut short its course. It is only then that active remedies can be used with benefit, or even with safety. If persevered in at a later period, they may exhaust the patient, but they will not subdue his disease.

Suffer me, in conclusion, Mr. President, to congratulate you, and the Society, on the continued advancement of our Institution in prosperity and usefulness.

The number of members who have connected themselves with the Society, during the past year, is 60, being, with one exception, more than have joined it in any previous year of its history. The present number of Fellows is 678, including 62 retired members, who retain all the privileges of fellowship, although released from some of its obligations. The number who have died during the

year, so far as I have been able to ascertain, is but six. Two of them were retired members, at the ages respectively of 86 and 74 years; four were at the active period of life, two of them respectively at the ages of 32, and two at 38 years.* Our profession cannot claim for its members, any more than for its patrons, an exemption from the general law of humanity. But it is a striking proof of the general healthfulness of our pursuits, notwithstanding all the fatigue, and care, and responsibility which attend them, that in a whole class of adult men, the annual proportion of deaths should be no more than one in 113. A few are taken away, to remind the many who remain, to renew their activity in the fulfilment of the duties of their station here, and in preparation for the enjoyments of a higher station hereafter.

NAMES.	RESIDENCE.		ÆT.
* JOHN STONE, M. D.,	Springfield,	Sept., 1838,	74
JOSEPH W. VALENTINE, M. D.,	Charlestown,	Nov., "	32
EDWARD FROST, M. D.,	Wayland,	Nov., "	38
MARTIN PHELPS,	Chester,	Dec., "	86
CHARLES WALKER, M. D.,	Framingham,	Jan., 1839,	32
JOSEPH W. MCKEAN, M. D.,	Boston,	April, "	38